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The Effects of Test Anxiety on Learners' Reading Test Performance

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Abstract

Most students experience some levels of anxiety during an exam. When anxiety affects test performance, it becomes a problem. Test anxiety can interfere with the students' ability to perform adequately and prevent students from demonstrating their knowledge on examinations. Some students have the skills and knowledge to do very well in testing situations, but their excessive anxiety impairs their performance. Among many factors, anxiety can explain the differences in reading comprehension performance among learners and has a tremendous effect on foreign language reading. The study presented in this paper aimed to explore the effects of test anxiety on Iranian EFL learners' reading test performance. A total of 34 intermediate male learners at Iran Language Institute (ILI) of Urmia attended the study. Participants took two reading comprehension tests and also completed two questionnaires of Test Anxiety Scale (TAS) and Foreign Language Reading Anxiety Scale (FLRAS) designed to measure their test anxiety and level of foreign language reading anxiety, respectively. The study employed Cronbach's alpha to determine the reliability of TAS and FLRAS and descriptive statistics to provide simple and meaningful interpretations of the data. The study also used One-Sample Kolmogorov-Smirnov Test to investigate the normality of variables' distribution. Results based on Pearson product-moment correlation coefficient indicated that at the intermediate level of proficiency, learners did not feel anxious during reading test performance and no correlation existed between test anxiety and performance on reading comprehension tests.

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1. Introduction

The “problem of anxiety” is to a significant extent, “a problem of intrusive thoughts that interfere with task-focused thinking” (Sarason, 1984, p. 929). Anxiety is usually defined as “a complex state that includes cognitive, emotional, behavioral, and bodily reactions” (Sarason, 1984, p. 931).

Spielberger (1983, as cited in MacIntyre, 1995) defined the “feeling of anxiety” as an immediate, temporary emotional experience with immediate cognitive effects that is pronounced by feelings of worry, nervousness, and tension in response to a specific situation (e.g., teaching and learning contexts). Almost everyone experiences the feeling of anxiety at some point in their life which affects their performance and effectiveness in different situations. Some people feel anxious more often and to a stronger degree than others. The degree of interfering anxiousness with the ability to perform varies amongs. The feeling of anxiety motivates some people to perform better by encouraging them to try more, while prohibits others’ performance by disrupting mental processes needed to perform well.

Test anxiety is a variable related to test-takers’ characteristics and has blossomed because of the most frequent use of tests and their importance to students. This importance begins with the pre-education level and continues through the college level (Rubin, 1999). Test anxiety seems like a harmless problem to some people, but it can be serious when it leads to high levels of anxiety and academic failure in students. Different degrees of test anxiety may be provoked at different times, depending on the students’ perception of test difficulty in a testing period. Relying on various cues or indicators during the test (e.g., estimation of their own performance), students’ perception of the level of test difficulty at the beginning of the test may be different from their perception during the test.

Kahan (2008, as cited in DordiNejad et al., 2011) showed that students with high test anxiety and those with low test anxiety will have lower academic performance. Consequently, those students with moderate levels of test anxiety will perform the best. A moderate level of anxiety is helpful in keeping people hardworking and responsible for what they have to do, and also useful for people in having a more successful life.

As Zeidner (1998) pointed out, “test-anxious students tend to be easily distracted on an exam, experience difficulty in comprehending relatively simple instructions, and also have difficulty organizing or recalling relevant information during the test” (p. 4). Sarason (1984) claimed that the test-anxious person experiences worry, insecurity, and self-doubt in evaluative situations. These internal factors decrease attention to the task at hand and lead to poor performance.

Smith (1964) noted that it is important to take into account motives, aptitudes, cognitive assessments of the task, and past experience when analyzing test anxiety and their relationship to performance. For instance, if an individual’s past experience is negative, the test anxiety level will be higher leading to lower performance. In contrast, if an individual’s past experience is positive, the test anxiety level will be lower leading to higher performance.

According to Grabe and Stoller (2001), amongst the four skills reading is considered to be the most important academic language skill because reading is the central means for learning new information. We read a text for a variety of purposes including: (1) to get the main idea, (2) to search specific information, (3) to learn new information, (4) to synthesize and evaluate information from multiple texts, (5) for general comprehension, and (6) for pleasure. Freese (1997) indicated that some students encounter problems while reading. They read the words in the text but still do not know what they have read. Sellers (2000) noted that the nature of reading is complex and the reading process is also difficult because learners need to coordinate attention, perception, memory, and comprehension. When learners read second language texts, they try to decode unfamiliar words and writing system. If they encounter difficulty in processing them, they may lose hope and avoid reading, and as a result experience anxiety. As Saito, Horwitz and Garza (1999) stated, inconsistent with previous studies reading in a foreign language can be anxiety provoking to some students. Reading anxiety refers to the anxiety provoked during the process of reading L2 texts. Previous studies have revealed that high anxiety may have negative effect on reading comprehension. According to Brantmeier (2005), “anxiety about reading at the advanced level may not be a function

of reading itself, but rather a function of oral or written reading comprehension tasks” (p. 76).

Regarding the results of different studies carried out in the world about the relationship between test anxiety and performance, there is no similar and predetermined correlation between them. Accordingly, high, moderate, low, or no relationships have been revealed in different research studies. Meanwhile, most of these studies have been done on the discussions of listening, speaking, and writing, and little attention has been paid to reading. Therefore, there is a gap in this regard. In response to the research gap identified, the current study was conducted to investigate the effect of test anxiety on Iranian EFL intermediate learners’ reading test performance at Iran Language Institute (ILI) of Urmia.

2. Review of Literature

In’ami (2006) in his study used two questionnaires measuring test anxiety and listening performance test to investigate the effects of test anxiety on listening test performance of 79 first-year university students with relatively high listening proficiency level. Results of the study showed that there were no relationships between test anxiety and listening test scores and also none of the three components of test anxiety including general test worry, test-irrelevant thinking, and emotion affected listening test performance. Lack of relationship between test anxiety and listening test performance may be due to test-takers’ personal characteristics (including their English proficiency levels, experience of past successful test performance and self-esteem), and strategic competence which controls anxiety.

Shomoossi and Kassaian (2009) carried out a study to investigate the effect of test anxiety on listening and speaking. Also, they studied the amount of anxiety before and after the listening test. They claimed that before taking the test, the unpredictability of the test format and content, time limit, test types, and its level of difficulty may hasten the students’ anxiety. While it is expected that the amount of anxiety reduces to a great degree after the exam, the opposite may happen. In other words, some students may become more worried about the scores and anxiety may not totally disappear. In general, the results revealed that anxiety is an important factor in taking oral tests than in the listening comprehension tests. However, there was no significant difference between test anxiety before and after the listening comprehension test. Also, no relationship was found to exist between test anxiety and the general proficiency of students.

DeDeyn (2011) investigated the relationship between student identity, writing anxiety, and writing performance of 33 international undergraduate students of advanced English proficiency registered in an introductory university writing course. Anxious second and foreign language writers fear that they do not be able to express themselves clearly in writing and worry about other’s judgments after reading their writing. According to DeDeyn, the previous studies have examined the issues of identity, writing anxiety, and writing performance separately and there are no studies investigating these issues together. Therefore, his study is an effort to fill these gaps in the existing literature on identity, anxiety, and writing. While analyzing the studies of Horwitz, 2001; MacIntyre and Gardner, 1994, DeDeyn (2011) claimed that there is a negative relationship between anxiety and measures of performance in language classrooms, such as task scores, test scores, or final exam grades. Data analysis of the study revealed that there were complex relationships among the variables, namely student identity, writing anxiety, and writing performance based on individual differences.

3. Method

3.1. Participants

A total of 34 male learners ranging in age from 12 to 22 years old took part in this study. The background language of learners was Persian or Turkish and their classes were held twice a week for 90 minutes.

3.2. Materials

Quick placement test: a quick placement test containing 60 items was used to establish the homogeneity of

participants and to make sure that they are at the intermediate level of proficiency. This test included two parts of reading comprehension and vocabulary.

Reading comprehension test: two multiple choice reading comprehension tests: with 30 multiple choice items in test one and 31 multiple choice items in test two were extracted from Phillips' (1952), Longman, Preparation Course for the TOEFL Test. For each of the multiple-choice items in test one and test two, four possible responses were created: one correct response and three distractors. The study used multiple-choice tests because the students are familiar with them and familiar tasks create less anxiety.

Two types of questionnaires: one of the questionnaires was the Test Anxiety Scale (TAS) designed by Sarason (1975) to measure participants' degree of test-taking anxiety. The other was the Foreign Language Reading Anxiety Scale (FLRAS) designed by Saito et al. (1999) to determine the participants' foreign language anxiety level in reading. The TAS contained 37 items and the FLRAS had 20 items. Each questionnaire was in five-point scale signifying 1= completely disagree, 2= disagree, 3= neutral, 4= agree, and 5= completely agree.

3.3. Procedure

Although all participants were at the intermediate level based on the placement test of Iran Language Institute (ILI), in the first session of the study a quick placement test was used to ensure that participants are homogeneous and at the very same intermediate level of proficiency. The participants were allowed 30 minutes to answer the placement test.

In the second session of the study, participants took the first multiple-choice reading comprehension test. Right after administering the multiple choice test, two questionnaires of TAS and FLRAS were administered. It took the participants a maximum of 60 minutes to answer the multiple-choice test and two questionnaires.

In the third session of the study, participants were given the second multiple-choice reading comprehension test. Two questionnaires of TAS and FLRAS were then administered as soon as participants completed the multiple choice test. It took the participants a maximum of 60 minutes to answer the multiple-choice test and two questionnaires.

3.4. Data analysis

The present study used Cronbach's alpha to determine the reliability of the two questionnaires of TAS and FLRAS. Then, descriptive statistics including mean, standard deviation, skewness, range, maximum, and minimum of the variables were presented for both the first reading comprehension test associated with two questionnaires of TAS and FLRAS in session two and the second reading comprehension test associated with two questionnaires of TAS and FLRAS in session three to provide simple summaries about the data. Afterwards, in order to examine the normality of variables' distribution in the second and third sessions of the study, One-Sample Kolmogorov-Smirnov Test was applied. Finally, employing the Statistical Package for Social Sciences (SPSS) 11.5, a Pearson product-moment correlation coefficient was computed to provide a stronger interpretation of the data.

4. Results

4.1. Reliability of the TAS and FLRAS

Cronbach's alpha was used to determine the internal consistency or reliability of the two questionnaires of TAS and FLRAS. The use of Cronbach's alpha showed the internal consistency of 0.81 for TAS and 0.82 for FLRAS (Table 1).

Table 1: Reliability of the TAS and FLRAS.

| Cronbach's Alpha | No. of Items |
|------------------|--------------|
| 0.81 | 37 |
| 0.82 | 20 |

4.2. Descriptive statistics

In order to summarize the obtained data in a clear and simple way, descriptive statistics were provided. Table 2 presents the descriptive statistics for the first reading comprehension test scores, TAS, and FLRAS in session two and Table 3 represents the descriptive statistics for the second reading comprehension test scores, TAS, and FLRAS in session three of the study.

Table 2: Descriptive statistics for the first reading comprehension test scores and two questionnaires of TAS and FLRAS.

| | | TOTAL20 (FLRAS) | TOTAL37 (TAS) | SCORE of READING |
|------------------------|---------|--------------------|------------------|---------------------|
| N | Valid | 34 | 34 | 34 |
| | Missing | 0 | 0 | 0 |
| Mean | | 53.0882 | 109.2059 | 55.1000 |
| Std. Deviation | | 11.24215 | 15.50128 | 10.83317 |
| Skewness | | -0.249 | -0.488 | -1.142 |
| Std. Error of Skewness | | 0.403 | 0.403 | 0.403 |
| Range | | 51.00 | 60.00 | 36.70 |
| Minimum | | 27.00 | 76.00 | 30.00 |
| Maximum | | 78.00 | 136.00 | 66.70 |

Table 3: Descriptive statistics for the second reading comprehension test scores and two questionnaires of TAS and FLRAS.

| | | TOTAL20 (FLRAS) | TOTAL37 (TAS) | SCORE of READING |
|------------------------|---------|--------------------|------------------|---------------------|
| N | Valid | 34 | 34 | 34 |
| | Missing | 0 | 0 | 0 |
| Mean | | 53.3529 | 108.6765 | 55.1235 |
| Std. Deviation | | 9.11503 | 14.96404 | 12.14935 |
| Skewness | | 0.154 | 0.213 | 0.206 |
| Std. Error of Skewness | | 0.403 | 0.403 | 0.403 |
| Range | | 35.00 | 58.00 | 45.10 |
| Minimum | | 38.00 | 83.00 | 32.30 |
| Maximum | | 73.00 | 141.00 | 77.40 |

4.3. One-sample kolmogorov smirnov test

In order to investigate the normal distribution of variables, the present study used One-Sample Kolmogorov-Smirnov Test. A significance level of 0.05 ($p > 0.05$) was set. The results are illustrated in Tables 4 and 5.

Table 4: One-Sample Kolmogorov-Smirnov Test to determine the normality of variables' distribution in the second session of the study.

| | | TOTAL20 (FLRAS) | TOTAL37 (TAS) | SCORE of READING |
|--------------------------|----------------|--------------------|------------------|---------------------|
| N | | 34 | 34 | 34 |
| Normal Parameters(a,b) | Mean | 53.0882 | 109.2059 | 55.1000 |
| | Std. Deviation | 11.24215 | 15.50128 | 10.83317 |
| Most Extreme Differences | Absolute | 0.113 | 0.149 | 0.206 |
| | Positive | 0.096 | 0.058 | 0.142 |
| | Negative | -0.113 | -0.149 | -0.206 |
| Kolmogorov-Smirnov Z | | 0.659 | 0.871 | 1.200 |
| Asymp. Sig. (2-tailed) | | 0.778 | 0.435 | 0.112 |

a. Test distribution is Normal.

b. Calculated from data.

Table 5: One-Sample Kolmogorov-Smirnov Test to determine the normality of variables' distribution in the third session of the study.

| | | TOTAL20 (FLRAS) | TOTAL37 (TAS) | SCORE of READING |
|--------------------------|----------------|--------------------|------------------|---------------------|
| N | | 34 | 34 | 34 |
| Normal Parameters(a,b) | Mean | 53.3529 | 108.6765 | 55.1235 |
| | Std. Deviation | 9.11503 | 14.96404 | 12.14935 |
| Most Extreme Differences | Absolute | 0.088 | 0.084 | 0.114 |
| | Positive | 0.088 | 0.084 | 0.114 |
| | Negative | -0.061 | -0.060 | -0.089 |
| Kolmogorov-Smirnov Z | | 0.516 | 0.492 | 0.665 |
| Asymp. Sig. (2-tailed) | | 0.953 | 0.969 | 0.768 |

a. Test distribution is Normal.

b. Calculated from data.

As represented in Tables 4 and 5, the significance level or p-value of the One-Sample Kolmogorov-Smirnov Test for these variables in the second and third sessions of the study was higher than 0.05 ($p > 0.05$) expressing that all variables were normally distributed.

4.4. Correlation coefficient

4.4.1. The relationship between foreign language reading anxiety (FLRAS) and first and second reading comprehension test scores

The Pearson product-moment correlation coefficient was employed to investigate the correlation between foreign language reading anxiety and first and second reading comprehension test scores. In the quantitative data analysis, a significance level of 0.05 ($p\text{-value} < 0.05$) was set. The results are shown in Tables 6 and 7 below.

Table 6: Effect of foreign language reading anxiety (FLRAS) on the first reading comprehension test scores.

| | | TOTAL20 (FLRAS) | SCORE of READING |
|--------------------|-----------------|--------------------|---------------------|
| TOTAL20 (FLRAS) | Pearson | 1 | -0.200 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | . | 0.257 |
| N | | 34 | 34 |

| | | | |
|---------------------|-----------------|--------|----|
| SCORE of READIND | Pearson | -0.200 | 1 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | 0.257 | . |
| | N | 34 | 34 |

Table 7: Effect of foreign language reading anxiety (FLRAS) on the second reading comprehension test scores.

| | | TOTAL20 (FLRAS) | SCORE of READING |
|---------------------|-----------------|--------------------|---------------------|
| TOTAL20 (FLRAS) | Pearson | 1 | 0.153 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | . | 0.387 |
| | N | 34 | 34 |
| SCORE of READING | Pearson | 0.153 | 1 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | 0.387 | . |
| | N | 34 | 34 |

As it is clear from Tables 6 and 7 above, since $p > 0.05$ and $r = -0.2$, $r = 0.15$ respectively, it can be concluded that there was no significant correlation between foreign language reading anxiety (FLRAS) and first and second reading comprehension test scores. The correlation index of -0.2 implied that there was not any strong association between the two variables.

4.4.2. The relationship between general test anxiety (TAS) and first and second reading comprehension test scores

Having applied the Pearson product-moment correlation coefficient, Table 8 and 9 are provided to demonstrate the results statistically.

Table 8: Effect of general test anxiety (TAS) on the first reading comprehension test scores.

| | | TOTAL37 (TAS) | SCORE of READING |
|---------------------|-----------------|------------------|---------------------|
| TOTAL37 (TAS) | Pearson | 1 | -0.015 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | . | 0.931 |
| | N | 34 | 34 |
| SCORE of READING | Pearson | -0.015 | 1 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | 0.931 | . |
| | N | 34 | 34 |

Table 9: Effect of general test anxiety (TAS) on the second reading comprehension test scores.

| | | TOTAL37 (TAS) | SCORE of READING |
|---------------------|-----------------|------------------|---------------------|
| TOTAL37 (TAS) | Pearson | 1 | 0.049 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | . | 0.781 |
| | N | 34 | 34 |
| SCORE of READING | Pearson | 0.049 | 1 |
| | Correlation (r) | | |
| | Sig. (2-tailed) | 0.781 | . |
| | N | 34 | 34 |

As represented in Tables 8 and 9, $p > 0.05$ and $r = -0.015$, $r = 0.04$ respectively. Therefore, no significant correlation existed between general test anxiety (TAS) and first and second reading comprehension test scores. The correlation index of -0.015 can be interpreted as no remarkable correlation between the two variables.

5. Discussion and Conclusion

The findings of the study indicated that the foreign language reading anxiety (FLRAS) did not have any significant correlation with the first reading comprehension test scores in the second session of the study and also with the second reading comprehension test scores in the third session of the study. Besides, the findings revealed that no significant correlation existed between general test anxiety (TAS) and first reading comprehension test scores in the second session of the study and also between general test anxiety (TAS) and second reading comprehension test scores in the third session of the study. Therefore, it can be concluded that test-taking anxiety had no significant correlation with reading test performance. In other words, test anxiety had no significant effect on Iranian EFL learners' reading test performance at intermediate level.

Results of In'nami's study (2006) indicated that among the three components of test anxiety including general test worry, test-irrelevant thinking, and emotion none affected listening test performance. The research by Shomoossi and Kassaian (2009) revealed that anxiety is an important factor in taking oral tests than in the listening comprehension tests. However, there was no significant difference between test anxiety before and after the listening comprehension test. Also, no relationship was found to exist between test anxiety and the general proficiency of students.

Birjandi and Alemi (2010) stated that students' test anxiety was rather low and they did not express much worry about taking a test in general English. In general, the study signified that there was no statistically important relationship between test-taking anxiety and test performance. Dordi Nejad et al. (2011) suggested that there was a negative relationship between academic performance and test anxiety. However, a positive relationship existed between age and test anxiety. DeDeyn (2011) claimed that there is a negative relationship between anxiety and measures of performance (e.g., task scores, test scores, or final exam grades) in language classrooms. Sarason (1960, as cited in Burns, 2004) studied the possible relationship between test anxiety and test performance and found that there was a negative relationship between them. That is, higher test anxiety is related to lower test performance.

6. Limitations and Suggestions for Further Research

This study faced with some limitations. Because of the institutional time limitations, the current study investigated only the intermediate level of proficiency. The study has used a relatively small sample size of 34 participants which makes it difficult to generalize the findings to all EFL learners.

The findings of the current study underline the need for further investigations concerning anxiety and foreign language reading. This study investigated only the intermediate level of proficiency. Two other levels, elementary and advanced levels, can be examined in further studies. Further research is suggested to use larger samples of both female and male participants to be able to generalize the findings to all EFL learners. Teachers are recommended to use topics and reading materials which are interesting for students to reduce test and reading anxiety. Also, it is suggested that teachers provide a low anxiety classroom environment for students to learn reading in a foreign language and train them how to recognize and treat anxiety and consider it as a real psychological issue which does not reflect laziness or lack of capability of the students.

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